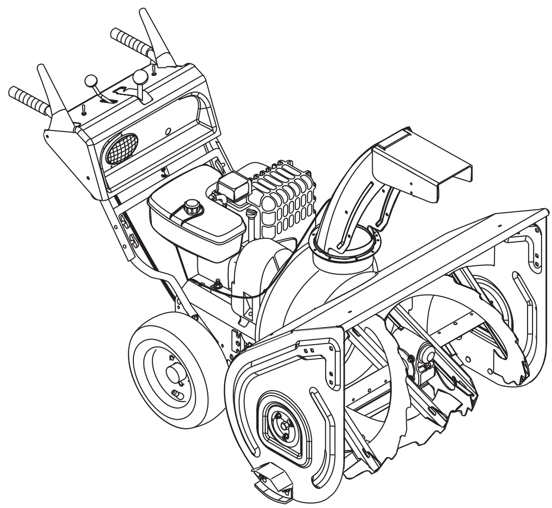
# Sno-Thro®

## Owner/Operator Manual

Models

924118 – 8524
924121 – 1128
924122 – 1124
924332 – 1124
924505 – 1332
924506 – 1336
924508 – 1128
924551 – 8524



GB ENGLISH
F FRANÇAIS
E ESPAÑOL

Transfer model & serial number label from product registration here.

Coller l'autocollant du modèle et du numéro de série dans cet encadré.

Transferir aquí la etiqueta del modelo y número de serie del registro del producto.

02497200A 6/03
Supersedes 02497200
Printed in USA

Ariens Company
655 West Ryan Street
P.O. Box 157
Brillion, Wisconsin
54110-0157
USA
Telephone (920) 756-2141
Facsimile (920) 756-2407

# MODEL CERTIFICATE OF CONFORMITY ISSUED BY THE MANUFACTURER – CERTIFICAT DE CONFORMITÉ DU MODÈLE DÉLIVRÉ PAR LE FABRICANT – MODELL-KONFORMITÄTSBE-SCHEINIGUNG AUSGESTELLT DURCH DEN HERSTELLER – CERTIFICATO DI COMFORMITÀ DEL MODELLO RILASCIATO DAL PRODUTTORE – CERTIFICADO DE CONFORMIDAD DEL MODELO PROVISTO POR EL FABRICANTE – MODELLSERTIFIKAT FOR OVERENSSTEMMELSE UTSTEDT AV FABRIKANT – TILLVERKARENS MODELLCERTIFIKAT OM ÖVERENSSTÄMMELSE – VALMISTAJAN ANTAMA VAKUUTUS MALLIN MÄÄRÄYSTEN MUKAISUUDESTA

We the undersigned, ARIENS COMPANY, certify that: – Nous, soussignés ARIENS COMPANY, certifions que : – Der Unterzeichnete, ARIENS COMPANY, bescheinigt, dass: – La sottoscritta società, ARIENS COMPANY, certifica che: – Nosotros, los abajo firmantes, ARIENS COMPANY, certificamos que: – Undertegnede, ARIENS COMPANY, bekrefter at: – Undertecknad, ARIENS COMPANY, intygar att: – Allekirjoittanut, ARIENS COMPANY, vakuuttaa, että:

| | | | | | |
|---|---|---|---|---|---|
| Type: – Tipo: – Tyyppi: – Typ: | WALK BEHIND SNOW THROWER – LES CHASSES-NEIGE AUTOTRACTÉS – HANDGEFÜHRTE SCHNEEFRÄSE – SPAZZANEVE SEMOVENTE – CAMINAR POR DETRÁS DE LA LANZADORA DE NIEVE – SNØFRESER – GÅ BAKOM SNÖSLUNGAN – KÄSINOHJAILTAVA LUMILINKO | | | | |
| Trade Name: – Appellation commerciale : – Handelsbezeichnung: – Nome commerciale: – Nombre comercial: – Handelsnavn: – Handels-beteckning: – Kauppanimi: | **ARIENS Sno-Thro** | | | | |
| Model: – Modèle : – Modell: – Modello: – Modelo: – Modell: – Modell: – Malli: | 924332 | 924505 | 924506 | 924508 | 924551 |
| Serial # Range: – Gamme de numéros de Série : – Seriennummern: – Gamma n. di serie: – Rango de nº de serie: – Serienummerområde: – Serienummer-område: – Sarjanumerot: | $\geq$ 000101 | $\geq$ 003250 | $\geq$ 002400 | $\geq$ 004000 | $\geq$ 000101 |

Coforms to: – Conforme à : – Entspricht: – Conforme a: – Conforme a: – Er i samsvar med: – Uppfyller: – Täyttää seuraavat vaatimukset: 98/37/EC, 89/336/EEC, 92/31/EEC, 2000/14/EC (V)

| Representative Measured Sound Power Level ($L_{wa}$) – Niveau de puissance acoustique représentatif – Repräsentativer gemessener Geräuschpegel – Livello di potenza sonora rappresentativo rilevato – Nivel de potencia acústica representativo medido – Representativt målt lydeffektnivå – Representativ uppmätt ljudnivå – Edustava, mitattu äänen tehotaso | Guaranteed Sound Power Level ($L_{wa}$) – Niveau garanti de puissance acoustique – Garantierter Geräuschpegel – Livello di potenza sonora garantito – Nivel de potencia acústica garantizado – Garantert lydeffektnivå – Garanterad ljudnivå – Taattu äänen tehotaso |
|---|---|
| 924332: 106 $dB_A$ | 924332: 109 $dB_A$ |
| 924505: 105 $dB_A$ | 924505: 107 $dB_A$ |
| 924506, 107 $dB_A$ | 924506: 109 $dB_A$ |
| 924508: 107 $dB_A$ | 924508: 109 $dB_A$ |
| 924551: 106 $dB_A$ | 924551: 109 $dB_A$ |

Philip J. Smucker:

Manager of Product Conformance (Keeper of Technical File) – Responsable de la conformité des produits (en possession du document technique) – Leiter der Produktübereinstimmung (Verantwortlicher für die technische Dokumentation) – Addetto alla conformità del prodotto (in possesso del documento tecnico) – Gerente de conformidad de los productos (en posesión del documento técnico) – Ansvarlig for produktsamsvar (innehaver av teknisk fil) – Chef för produktöverensstämmelse (innehavare av tekniska dokument) – Tuotteen vaatimustenmukaisuudesta vastaava johtaja (teknisen tiedoston haltija)

Signature – Firma – Unterschrift – Signatur – Namnteckning – Allekirjoitus

5/30/2003

Date – Data – Datum – Fecha – Dato – Päiväys

**CE Sound and Vibration – Niveau sonore et vibration CE – CE-Geräuschpegel und Vibrationswerte – Livello sonoro e vibrazioni CE – Sonido y vibración CE – CE-lydnivå og Vibrasjonsmåling – CE ljudnivå och Vibrations-mätning – CE-melutaso Tärinä**

| Model: – Modèle : – Modell: – Modello: – Modelo: – Modell: – Modell: – Malli: | 924332 | 924505 | 924506 | 924508 | 924551 |
|---|---|---|---|---|---|
| Oper. Ear Sound Pressure ($L_{pa}$) in $dB_A$ – Pression acoustique Pression sonore à aux oreilles de l'opérateur ($L_{pa}$) en $dB_A$ – Geräuschstärke am Ohr des Bedieners ($L_{pa}$) in $dB_A$ – Potenza sonora percepita dall'operatore ($L_{pa}$) in. $dB_A$ – Presión de sonido en el oído ($L_{pa}$) in $dB_A$ – Lydtrykk i førerens øre ($L_{pa}$) in. $dB_A$ – vid förarens position ($L_{wa}$) i $dB_A$ – Kuljettajan korvaan kohdistuva äänipaine ($L_{pa}$)/$dB_A$ | 94 | 93 | 94 | 95 | 94 |
| Vibration Measure (m/sec$^2$) @ Operator Hands – Niveau de vibrationaux mains de l'opérateur – Vibrationswerte An den Händen des Bedieners – Misura delle vibrazioni alle mani dell'operatore – Cantidad de vibración en las manos del operador – Vibrasjonsmåling ved brukerens hender – Vibrationsmätning vid förarens händer – Tärinä kuljettajan käsissä **X** | 2.1 | 2.3 | 2.9 | 2.2 | 4 |
| **Y** | 3.9 | 2.3 | 3.3 | 5.4 | 2.4 |
| **Z** | 4.9 | 3.2 | 4.7 | 6.4 | 3.9 |

# CONTROLS AND FEATURES

**ENGLISH**

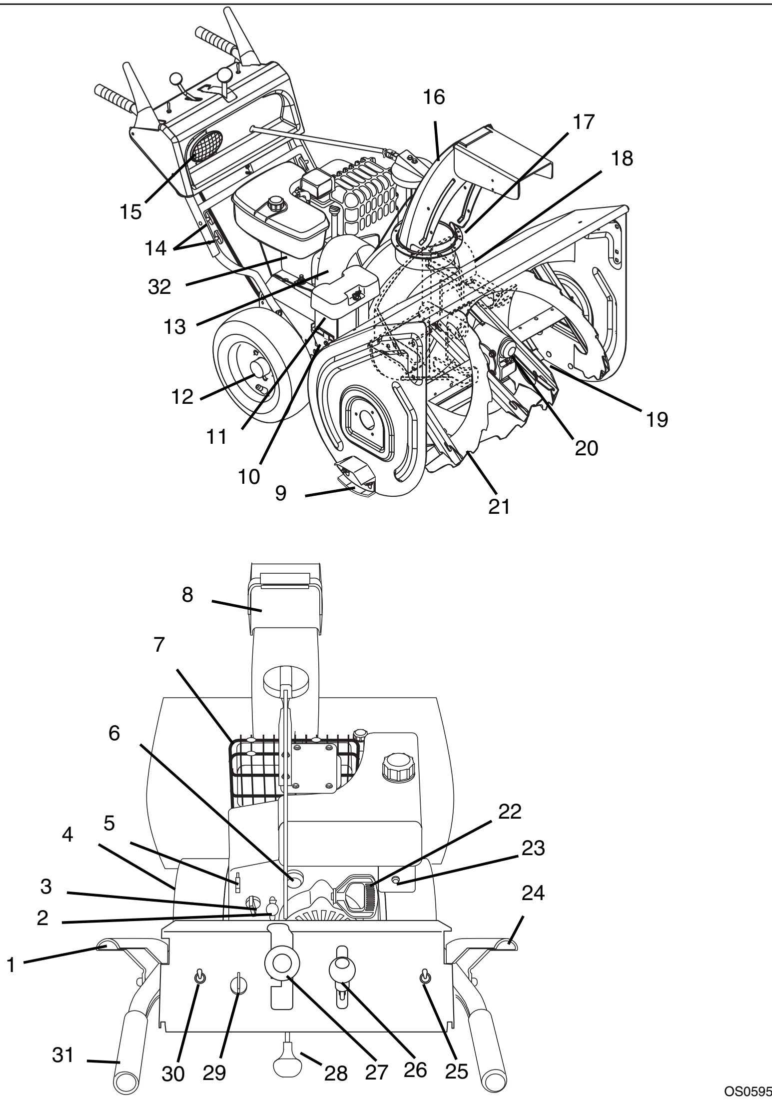
1. Traction Drive Clutch Lever
2. Throttle (Engine Stop)
3. Choke Control Knob
4. Differential Lock (924122, 332, 505, 506, 508)
5. Ignition Key, push-pull (924121, 122)
6. Primer Bulb
7. Muffler Guard
8. Discharge Chute Deflector
9. Runner
10. Solenoid Compartment (924332, 505, 506, 508)
11. Battery Cover and Battery (924332, 505, 506, 508)
12. Axle Lock Pin (924121)
13. Belt Cover
14. Wing Knobs
15. Headlight
16. Discharge Chute
17. Electric Chute Motor (924505, 506)
18. Impeller
19. Scraper Blade
20. Auger Gearcase
21. Auger
22. Recoil Starter Handle
23. Electric Starter (924121, 122)
24. Attachment Clutch Lever
25. Chute Rotation Switch (924505, 506)
26. Deflector Remote Control (924121, 505, 506)
27. Speed Selector
28. Chute Crank (924121, 122, 332, 508)
29. Ignition Key (924332, 505, 506, 508)
30. Heated Handles Switch
31. Heated Handles
32. Fuel Shut-off Valve

**FRANÇAIS**

1. Levier d'embrayage de la traction
2. Commande des gaz (arrêt du moteur)
3. Bouton du Starter
4. Blocage du différentiel (924122, 332, 505, 506, 508)
5. Clé de contact, pousser-tirer (924121, 122)
6. Poire d'amorçage
7. Garant du silencieux
8. Déflecteur de la goulotte d'évacuation
9. Patin
10. Compartiment du solénoïde (924332, 505, 506, 508)
11. Couvercle de batterie et batterie (924332, 505, 506, 508)
12. Broche de blocage de l'essieu (924121)
13. Couvercle de la courroie
14. Boutons
15. Phare
16. Goulotte d'évacuation
17. Moteur électrique de la goulotte (924505, 506)
18. Turbine
19. Lame racleuse
20. Boîtier de renvoi du rotor
21. Rotor
22. Poignée du démarreur à cordon
23. Démarreur électrique (924121, 122)
24. Levier d'embrayage de l'outil
25. Commande de rotation de la goulotte (924505, 506)
26. Commande à distance du déflecteur (924121, 505, 506)
27. Sélecteur de vitesse
28. Manivelle de la goulotte (924121, 122, 332, 508)
29. Clé de contact (924332, 505, 506, 508)
30. Poignées chauffées
31. Commande de poignées chauffées
32. Robinet de carburant

**ESPAÑOL**

1. Palanca del embrague de la transmisión de la tracción
2. Aceleración (parada de motor)
3. Perilla de control del Estrangulador
4. Traba del diferencial (924122, 332, 505, 506, 508)
5. Llave de encendido, tiro-empujel (924121, 122)
6. Botón del cebador
7. Protector del silenciador
8. Deflector de la tolva de descarga
9. Guía
10. Compartimento del solenoide (924332, 505, 506, 508)
11. Cubierta de la batería y batería (924332, 505, 506, 508)
12. Pasador de traba del eje (924121)
13. Cubierta de la correa
14. Perillas de mariposa
15. Luces delanteras
16. Tolva de descarga
17. Motor de la tolva eléctrica (924505, 506)
18. Propulsor
19. Cuchilla raspadora
20. Caja de engranajes del sinfín
21. Sinfín
22. Manilla de retroceso del motor de arranque
23. Arranque eléctrico (924121, 122)
24. Palanca del embrague del accesorio
25. Interruptor de rotación de la tolva (924505, 506)
26. Control remoto del deflector (924121, 505, 506)
27. Selector de velocidad
28. Manivela de la tolva (924121, 122, 332, 508)
29. Llave de encendido (924332, 505, 506, 508)
30. Interruptor de las manillas térmicas
31. Manillas térmicas
32. Válvula de corte del combustible


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OS0595
Figure 1

# TABLE OF CONTENTS



# INTRODUCTION

## THE MANUAL

Before operation of unit, carefully and completely read your manuals. If used improperly, this unit could be dangerous and cause personal injury or property damage. The contents will provide you with safety instructions for the safe use of your unit during normal operation and maintenance.

All reference to left, right, front, or rear are given from operator standing in operation position and facing the direction of forward travel.

## MODEL AND SERIAL NUMBERS

When ordering replacement parts or making service inquiries, know the Model and Serial numbers of your unit and engine.

Numbers are located on the product registration form in the unit literature package. They are printed on a serial number label, located on the frame of your unit.

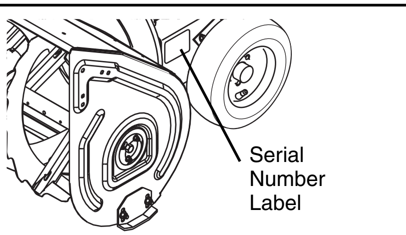



Figure 2

- Record Unit Model and Serial numbers here.

| |
|---|
| |

- Record Engine Model and Serial number here.

| |
|---|
| |

## PRODUCT REGISTRATION

The Ariens dealer must register the product at the time of purchase. Registering the product will help the company process warranty claims or contact you with the latest service information. All claims meeting requirements during the limited warranty period will be honored, whether or not the product registration card is returned. Keep a proof of purchase if you do not register your unit.

**Customer Note:** If the dealer does not register your product, please fill out, sign, and return the product registration card to Ariens or go to www.ariens.com.

## UNAUTHORIZED REPLACEMENT PARTS

Use only Ariens replacement parts. The replacement of any part on this vehicle with anything other than an Ariens authorized replacement part may adversely affect the performance, durability, or safety of this unit and may void the warranty. Ariens disclaims liability for any claims or damages, whether warranty, property damage, personal injury or death arising out of the use of unauthorized replacement parts.

For a brief list of replacement parts see *Service Parts* in this manual. To obtain a complete parts manual, find your model and serial number. Then go to www.ariens.com or call 1-800-678-5443.

## DISCLAIMER

Ariens reserves the right to discontinue, make changes to, and add improvements upon its products at any time without public notice or obligation. The descriptions and specifications contained in this manual were in effect at printing. Equipment described within this manual may be optional. Some illustrations may not be applicable to your unit.

## DELIVERY

**Customer Note:** If you have purchased this product without complete assembly and instruction by your retailer, it is your responsibility to:

1. Read and understand all assembly instructions in this manual. If you do not understand or have difficulty following the instructions, contact your nearest Ariens Dealer for assistance. Make sure all assembly has been properly completed.

**NOTE:** To locate your nearest Ariens Dealer, call 1-800-678-5443 or go to www.ariens.com on the internet.

2. Understand all Safety Precautions provided in the manuals.
3. Review control functions and operation of the unit. Do not operate the Sno-Thro unless all controls function as described in this manual.
4. Review recommended lubrication, maintenance and adjustments.
5. Review Limited Warranty Policy.
6. Fill out a Product Registration Card and return the card to the Ariens Company or go to www.ariens.com.

> **WARNING:** Improper assembly or adjustments can cause serious injury.

# SAFETY

> **WARNING:** To avoid injury to hands and feet, always disengage clutches, shut off engine, and wait for all movement to stop before unclogging or working on snow thrower.
>
> Keep hands and feet away from auger and impeller.

## SAFETY ALERTS

Look for these symbols to point out important safety precautions. They mean:

**Attention!**

**Personal Safety Is Involved!**

**Become Alert!**

**Obey The Message!**

The safety alert symbols above and signal words below are used on decals and in this manual. Read and understand all safety messages.

> **DANGER:** IMMINENTLY HAZARDOUS SITUATION! If not avoided, WILL RESULT in death or serious injury.

> **WARNING:** POTENTIALLY HAZARDOUS SITUATION! If not avoided, COULD RESULT in death or serious injury.

> **CAUTION:** POTENTIALLY HAZARDOUS SITUATION! If not avoided, MAY RESULT in minor or moderate injury. It may also be used to alert against unsafe practices.

## NOTATIONS

**NOTE:** General reference information for proper operation and maintenance practices.

**IMPORTANT:** Specific procedures or information required to prevent damage to unit or attachment.

## PRACTICES AND LAWS

Practice usual and customary safe working precautions, for the benefit of yourself and others. Understand and follow all safety messages. Be alert to unsafe conditions and the possibility of minor, moderate, or serious injury or death. Learn applicable rules and laws in your area. Always follow the practices set forth in this manual.

## REQUIRED OPERATOR TRAINING

Original purchaser of this unit was instructed by the seller on safe and proper operation. If unit is to be used by someone other than original purchaser; loaned, rented or sold, ALWAYS provide this manual and any needed safety training before operation.

## SAFETY DECALS AND LOCATIONS

ALWAYS replace missing or damaged Safety Decals. Refer to figure below for Safety Decal locations.

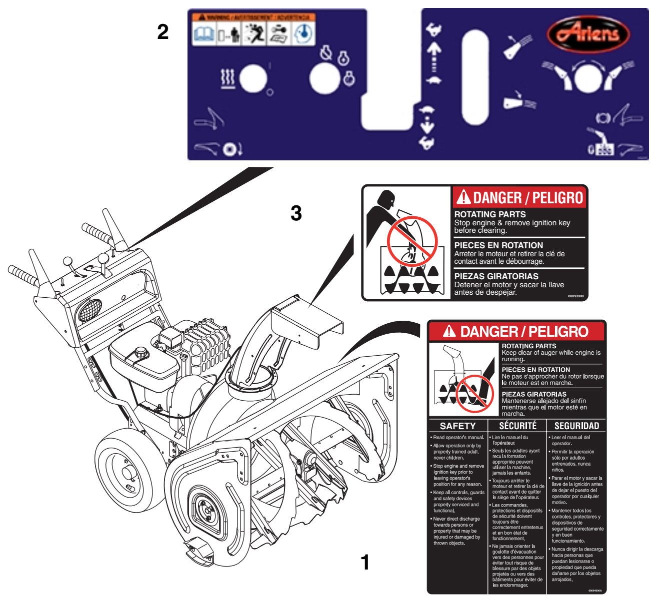



Figure 3

OS2360

### 1. DANGER!



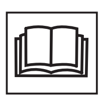
OS2080

ROTATING PARTS.

Keep clear of auger while engine is running.

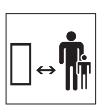
- Read Operator's Manual.
- Allow operation only by properly trained adult, never children.
- Stop engine and remove ignition key prior to leaving the operator's position for any reason.
- Keep all controls, guards and safety devices properly serviced and functional.
- Never direct discharge towards persons or property that may be injured or damaged by thrown objects.

### 2. WARNING!



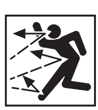
OL1801

Read Owner/Operator Manual.



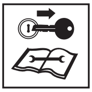
OL4370

Keep people away from unit while operating. Keep children out of work area and under watchful care of a responsible adult.



OL0910

Never direct discharge towards persons or property that may be injured or damaged by thrown objects.



OL4010

Stop engine, remove key, read manual before making any repairs, adjustments.



OL4690

Wear appropriate hearing protection.

### 3. DANGER!



OS2070

ROTATING PARTS! Stop engine and remove key before clearing. **High speed impeller rotates below discharge opening. Wait for all moving parts to stop before removing clogs or servicing.**

## SAFETY RULES

Read, understand, and follow all safety practices in Owner/Operator Manual before beginning assembly or operating. Failure to follow instructions could result in personal injury and/or damage to unit.

ALWAYS remove key and/or wire from spark plug before assembly, maintenance or service. Unintentional engine start up can cause death or serious injury.

Complete a walk around inspection of unit and work area to understand:

- Work area
- Your unit
- All safety decals

ALWAYS check overhead and side clearances carefully before operation. ALWAYS be aware of traffic when operating along streets or curbs.

Keep children and people away. Keep children out of work area and under watchful care of a responsible adult.

NEVER allow children to operate or play on or near unit. Be alert and shut off unit if children enter area.

DO NOT allow adults to operate unit without proper training.

Keep area of operation clear of all toys, pets, and debris. Thrown objects can cause injury.

Check for weak spots on docks, ramps or floors. Avoid uneven work areas and rough terrain. Stay alert for hidden hazards.

Avoid uneven and rough terrain. DO NOT operate near drop offs, ditches, or embankments. Unit can suddenly turn over if a wheel is over the edge of a cliff or ditch, or if an edge caves in.

Falling snow, fog, etc. can reduce vision and cause an accident. Operate unit only when there is good visibility and light.

Only trained adults may operate unit.

Training includes actual operation.

NEVER operate unit after or during the use of medication, drugs or alcohol. Safe operation requires your complete and unimpaired attention at all times.

NEVER allow anyone to operate this unit when their alertness or coordination is impaired.

DO NOT operate unit without wearing adequate winter outer garments. Wear adequate safety gear, including safety glasses with side shields, and protective gloves. Wear proper footwear to improve footing on slippery surfaces.

DO NOT wear loose clothing or jewelry and tie back hair that may get caught in rotating parts.

Protect eyes, face and head from objects that may be thrown from unit. Wear appropriate hearing protection.

Avoid sharp edges. Sharp edges can cut. Moving parts can cut off fingers or a hand.

ALWAYS keep hands and feet away from all rotating parts during operation. Rotating parts can cut off body parts.

NEVER place your hands or any part of your body or clothing inside or near any moving part while unit is running.

ALWAYS keep hands away from all pinch points.

DO NOT touch unit parts which might be hot from operation. Allow parts to cool before attempting to maintain, adjust or service.

Never direct discharge towards persons or property that may be injured or damaged by thrown objects. Use extreme caution on gravel surfaces. Stay alert for hidden hazards or traffic. Adjust Runners so Scraper Blade does not contact gravel.

DO NOT throw snow any higher than necessary.

Deflected materials can cause injury and property damage.

Always stand clear of the discharge area when operating this unit.

Fumes from engine exhaust can cause injury or death. DO NOT run engine in an enclosed area. Always provide good ventilation.

ALWAYS disengage attachment, stop unit and engine, remove key and allow moving parts to stop before leaving operator's position.

**ROTATING IMPELLER CAN CAUSE SERIOUS INJURY. NEVER ATTEMPT TO UNCLOG OR CLEAN UNIT WHILE ENGINE IS RUNNING.**

Read, understand, and follow all instructions in the manual and on the machine before starting.

Understand:

- How to operate all controls.
- The functions of all controls.
- How to STOP in an emergency.

Before starting engine, disengage control(s).

Use only approved extension cords and receptacles when starting units equipped with electric starter. DO NOT connect electric starter cord to any wiring system that is not a three-wire grounded system.

ALWAYS allow unit and engine to adjust to outdoor temperatures before clearing snow.

Always be sure of your footing, especially when operating in reverse or leaving the operator's position. Walk, never run during operation.

DO NOT overload the machine capacity by attempting to clear snow at too fast a rate.

DO NOT operate at too fast a rate.

Slow down and turn corners slowly.

Do not operate in reverse unless absolutely necessary. ALWAYS back up slowly. Always look down and behind before and while backing.

Disengage attachment drive when traveling from one work area to another.

Abnormal Vibrations are a warning of trouble. Striking a foreign object can damage unit. Immediately stop unit and engine. Remove key and wait for all moving parts to stop. Remove wire from spark plug. Inspect unit and make any necessary repairs before restart.

**Before cleaning, removing clogs or making any inspections, repairs, etc.: disengage clutch(es), stop unit and engine, remove key, allow moving parts to stop. Allow hot parts to cool.**

Run unit a few minutes after clearing snow to prevent freeze-up of attachment.

Disengage attachment when not in use. Disengage all clutches before starting engine. Adjust runners to clear gravel or crushed rock surfaces safely.

Never leave a running unit unattended. ALWAYS shut off engine before leaving unit. ALWAYS remove key to prevent unauthorized use.

Never carry passengers.

Check clutch and brake operation frequently. Adjust and service as required. All motion of drive wheels and auger/impeller must stop quickly when control levers are released.

DO NOT operate on steep slopes. DO NOT clear snow across the face of slopes. Keep all movement on slopes slow and gradual. DO NOT make sudden changes in speed or direction. Use a slow speed to avoid stops or shifts on slopes. Avoid starting or stopping on a slope.

DO NOT park unit on a slope unless absolutely necessary. When parking on a slope always block the wheels.

ALWAYS shut off engine, remove key, and close fuel shut-off valve or drain fuel when transporting unit on a truck or trailer.

Use extra care when loading or unloading unit onto trailer or truck.

Secure unit chassis to transport vehicle. NEVER secure from rods or linkages that could be damaged.

DO NOT transport machine while engine is running.

Keep unit free of ice or other debris. Clean up oil or fuel spills.

This product is equipped with an internal combustion type engine. DO NOT use unit on or near any unimproved, forest-covered or brush covered land unless exhaust system is equipped with a spark arrester meeting applicable local, state or federal laws. A spark arrester, if it is used, must be maintained in effective working order by operator.

Fuel is highly flammable and its vapors are explosive. Handle with care. Use an approved fuel container.

NO smoking, NO sparks, NO flames. ALWAYS allow engine to cool before servicing.

NEVER fill fuel tank when engine is running or hot from operation.

NEVER fill or drain fuel tank indoors.

Replace fuel cap securely and clean up spilled fuel.

Never fill containers inside a vehicle or on a truck or trailer bed with a plastic liner. Always place containers on the ground away from your vehicle before filling.

When practical, remove gas-powered equipment from the truck or trailer and refuel it on the ground. If this is not possible, then refuel such equipment on a trailer with a portable container, rather than from a gasoline dispenser nozzle.

Keep the nozzle in contact with the rim of the fuel tank or container opening at all times until fueling is complete. Do not use a nozzle lock-open device.

If fuel is spilled on clothing, change clothing immediately.

Avoid Electric Shock. Objects contacting both battery terminals at the same time may result in injury and unit damage. DO NOT reverse battery connections.

Explosive Gases from battery can cause death or serious injury. Poisonous battery fluid contains sulfuric acid and its contact with skin, eyes or clothing can cause severe chemical burns.

No flames, No sparks, No smoking near battery.

ALWAYS wear safety glasses and protective gear near battery.

DO NOT TIP battery beyond a 45° angle in any direction.

ALWAYS keep batteries out of reach of children.

Battery posts, terminals and related accessories contain lead and lead compounds, chemicals known to the State of California to cause cancer and reproductive harm. Wash hands after handling.

Follow First Aid directions for contact with battery fluid.

- External Contact: Flush with water.
- Eyes: Flush with water for at least 15 minutes and get medical attention immediately!
- Internal Contact: Drink large quantities of water. Follow with Milk of Magnesia, beaten egg or vegetable oil. Get medical attention immediately!
- In case of internal contact, DO NOT induce vomiting!

Before tipping unit up onto housing, remove fuel so no spills will occur and remove battery. Ensure unit is secure and will not tip over during maintenance.

ALWAYS keep protective structures, guards, and panels in good repair, in place and securely fastened. NEVER modify or remove safety devices.

DO NOT change engine governor settings or over-speed engine.

Fumes from engine exhaust can cause injury or death. DO NOT run engine in an enclosed area. Always provide good ventilation.

ALWAYS maintain unit in safe operating condition. Damaged or worn out muffler can cause fire or explosion.

Keep all hardware properly tightened. Check shear bolts frequently.

Maintain or replace safety and instruction labels, as necessary.

NEVER store unit with fuel in fuel tank, inside a building where any ignition sources are present.

Shut off fuel and allow engine to cool completely before storing in closed area or covering unit.

For extended storage, clean unit thoroughly. See Engine Manual for proper storage.

Use only attachments or accessories designed for your unit.

Check components frequently. If worn or damaged, replace with manufacturer’s recommended parts.

> ⚠ **WARNING:** AVOID INJURY. Read and understand the entire *Safety* section before proceeding.

> ⚠ **WARNING:** Dropping or tipping over boxed unit could result in personal injury or damage to unit.

### Tools Required:

- Pliers
- Open-End Wrenches: 3/8, 7/16, 1/2, 9/16" and/or Adjustable Wrench
- Tire Gauge

## PACKAGE CONTENTS

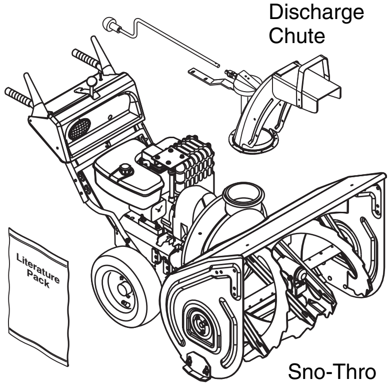
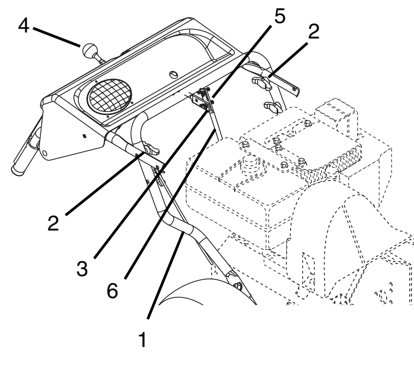



Figure 4

## ASSEMBLY

### Handlebar and Shift Rod

1. Remove lower wing knobs on handlebar assembly (Figure 5).
2. Remove upper wing nut and bolt on shift rod.
3. Loosen upper wing knobs on handlebar.
4. Loosen lower wing nut and bolt on shift rod.
5. Put speed selector lever into fastest reverse panel notch.
6. Rotate handlebar up so wing knob holes align. Install and tighten all wing knobs.
7. Install wing nut and bolt removed in step 2 onto shift rod and tighten hardware.




1. Handlebar Assembly
2. Wing Knobs
3. Wing Nut
4. Speed Selector
5. Bolt
6. Shift Rod

Figure 5

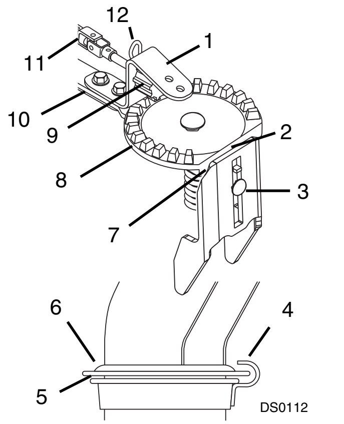
### Install Discharge Chute and Crank (924118, 121, 122, 332, 508, 551)

Figure 6.

1. Grease discharge chute ring on blower housing (if not already greased).
2. Remove mounting hardware from top of engine.
3. Slide chute ring under retainer clip on blower housing and put chute on housing.
4. Secure chute by fastening chute strap to engine with hardware just removed.

**NOTE:** Washers and lock nuts go on top of chute strap.

5. Loosen mounting nut on chute and move chute up or down so that chute ring is approximately centered between retainer clip and lower ring and tighten.
6. Slide chute crank rod through bracket under handlebar and through hole in panel.
7. Align chute crank rod with the universal joint on chute and fasten with spring clip.

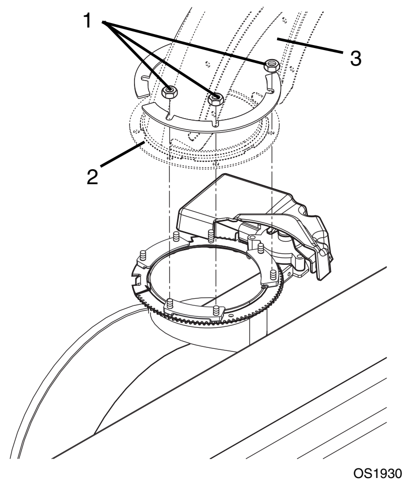



1. Pinion Bracket
2. Gear Strap
3. Chute Bracket
4. Retainer Clip
5. Lower Ring
6. Chute Ring
7. Mounting Nut
8. Flat Gear
9. Pinion
10. Chute Strap
11. Universal Joint
12. Spring Clip

Figure 6

## Install Discharge Chute - Electric Rotation (924505, 506)

1. Remove chute motor cover.
2. Remove the six (6) nuts from ring gear (Figure 7).
3. Remove two (2) half rings.
4. Position Discharge Chute over threaded studs with the chute opening facing the electric motor.
5. Replace the half rings.
6. Replace the six (6) nuts and tighten to 120 lbf-in. (13.56 N•m) torque.
7. Replace chute motor cover.




1. Ring Gear Nuts
2. Half Rings
3. Discharge Chute

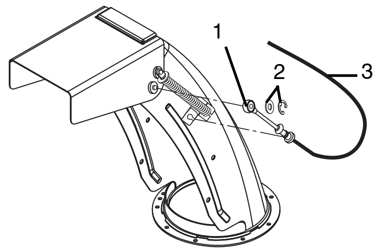
Figure 7

## Connect Battery (924332, 505, 506, 508)

1. Remove wing nuts from battery cover.
2. Install wire lead to battery terminal.
3. Install battery cover and tighten wing nuts.

## Deflector Remote (924121, 122, 332, 505, 506, 508)

1. Slide cable end through hole on bracket on left side of chute (Figure 8).
2. Attach cable eye to stud on deflector. Hold in place with flat washer and e-ring.
3. Check deflector travel. Adjust nut on cable end under handlebar to obtain full travel. (See *Deflector Remote* in *Service and Adjustments*.)




1. Cable Eye
2. Flat Washer and E-Ring
3. Deflector Cable

Figure 8

OS1981

### Check Function of Dual Handle Interlock

Without the engine running, press down (engage) both clutch levers. Release attachment clutch lever. Attachment clutch should remain engaged until traction clutch lever is released, then both clutches *must* disengage. If they do not, contact your dealer for repairs.

### Check Tire Pressure

Check tire pressure and adjust to the pressure listed on tire sidewall.

### Check Auger Gearcase Oil

Check oil level in auger gearcase (see *Service and Adjustments*).

### Check Engine Crankcase Oil

**IMPORTANT:** The engine is shipped with 5W-30 oil in crankcase. Refer to Engine Manual for detailed instructions.

### Fill Engine Fuel Tank

Refer to Engine Manual for proper fuel type and tank capacity.

### Check Function of all Controls

Ensure unit runs and performs properly. Refer to *Operation*.

### Run-in Attachment Belt

1. Start unit in a well-ventilated area according to *Starting and Shut-Off* in *Operation*.
2. Engage attachment clutch lever and run attachment for about 15 minutes.
3. Stop unit, wait for all moving parts to stop, and remove spark plug wire.
4. Adjust clutch according to *Attachment Clutch/Brake Adjustment* in *Service and Adjustments.*

# OPERATION

> ⚠ **WARNING:** AVOID INJURY. Read and understand the entire *Safety* section before proceeding.

> ⚠ **WARNING:** To avoid injury to hands and feet, always disengage clutches, shut off engine, and wait for all movement to stop before unclogging or working on snow thrower.
>
> Keep hands and feet away from auger and impeller.

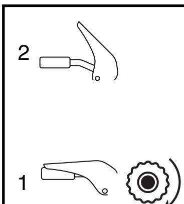
## CONTROLS AND FEATURES

See Figure 1 for all Controls and Features locations.

### Dual Handle Interlock

When Attachment Clutch and then Traction Drive Clutch are engaged, the Attachment Clutch will remain engaged (lever down) if released. To stop attachment, release Traction Drive Clutch and both clutches will disengage.

### Traction Drive Clutch - Left Hand Lever



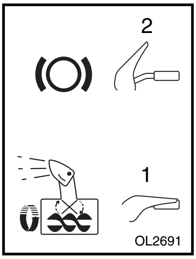

OL2701

Squeeze the Traction Drive Clutch Lever against the Handlebar (1) to engage wheel drive for propelling unit. Forward speed will vary according to snow depth and moisture content.

Release lever (2) to stop movement.

**NOTE:** When traveling to or from the area to be cleared, press down on the handlebars enough to raise the front of the unit slightly off the surface. Engage the traction drive clutch without engaging the attachment drive clutch.

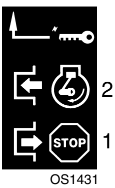
## Attachment Clutch - Right Hand Lever




Squeeze Attachment Clutch Lever against handlebar (1) to engage attachment. Release both clutch levers (2) to disengage power and apply brake to attachment.

**IMPORTANT:** If the belt squeals when the attachment clutch lever is engaged, the attachment drive may be frozen. Immediately release the attachment clutch lever and move the unit into a heated area to thaw.

## Ignition Switch (120V start on engine)

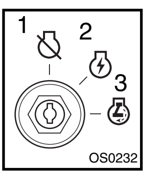



Key Switch has two positions:

1. "Stop" - pulled out
2. Run - pushed in

**NOTE:** DO NOT twist key after it is inserted.

## Ignition Switch (12V start on dash panel)




The ignition switch is operated by a removable key. It has three positions:

1.Stop
2.Run
3.Start

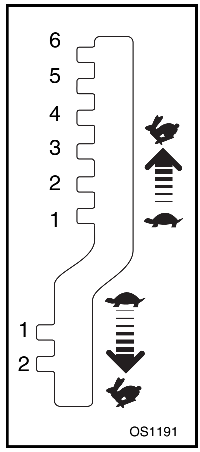
## Primer Bulb




Pushing the primer bulb in adds fuel for easier engine start. Refer to *Starting and Shut Off.*

## Speed Selector

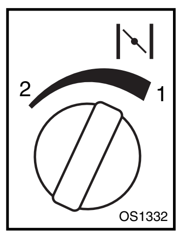
The Speed Selector controls the unit travel in a forward or reverse direction when positioned in notch of speed.




Forward:
(6) Fastest
(1) Slow
Reverse:
(1) Slow
(2) Fast

**IMPORTANT:** DO NOT change motion from forward to reverse with clutch engaged. Forward speed can be changed without declutching.

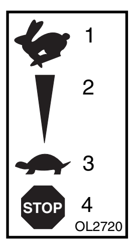
## Choke Control Knob




1. Choke Closed position: chokes off air to engine for easier start.
2. Choke Open position: allows for normal operation.

**IMPORTANT:** Gradually open choke after engine starts.

## Throttle




The throttle controls the engine speed. To increase or decrease the engine speed, adjust to:

1. Fast (normal or warm starts)
2. Part-Throttle
3. Slow (cold weather starts)
4. Stop (engine is off)

## Electric Starter

The electric starter will start a properly choked and cranked engine when the key is turned (12V) or starter button (120V) is pushed. Refer to *Starting and Shut-Off.*

## Recoil Starter Handle

When pulled, handle will turn engine over.

**IMPORTANT:** DO NOT let handle snap back against starter.

## Discharge Chute Deflector

ALWAYS position discharge chute deflector at a safe angle before starting engine.

DO NOT throw snow any higher than necessary.

Push deflector handle forward or down to throw snow lower. Pull deflector handle up or to the rear to throw snow higher.

**IMPORTANT:** If Chute Deflector does not stay in set position, adjust as directed in *Service and Adjustments*, or repair before operation.

## Deflector Remote (924121, 332, 505, 506)

Place deflector into position before operation. DO NOT throw snow any higher than necessary.

Push deflector remote forward to throw snow lower. Pull deflector remote back to throw snow higher.

## Discharge Chute

Discharge chute rotates 220°.

ALWAYS position discharge chute in safe direction and angle, away from operator and bystanders, before starting engine.

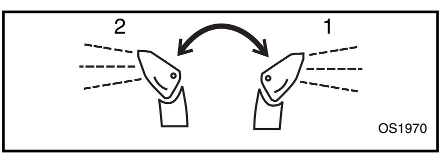
## Chute Crank (924121, 122, 332, 508)

**IMPORTANT:** If chute does not stay in set position, adjust as directed in *Service and Adjustments,* or repair before operation.

Rotate the Chute with Discharge Chute Crank Handle.

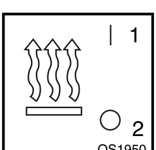
**IMPORTANT:** DO NOT force frozen chute controls. Start engine and run for 3-5 minutes to thaw. If still frozen, take to warm place until controls are free.

## Chute Rotation Switch (924505, 506)



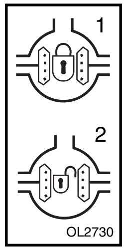

Press the chute rotation switch right (1) to rotate chute clockwise. Press the chute rotation switch left (2) to rotate chute counterclockwise.

## Heated Handles




Turn the heated handles switch to the ON (1) position to activate. Turn the switch to the OFF (2) position to deactivate.

## Differential Lock (924118, 122, 332, 505, 506, 508, 551)




Differential Lock knob is located on the Left Wheel Hub. With differential locked power is applied equally to both wheels.

To engage differential lock:

- Pull and turn knob to LOCKED (1) position and release (knob will snap in place when positioned correctly).

To resume differential action for transport:

- Pull and turn knob to UNLOCKED (2) position and release.

## Axle Lock Pin (Figure 9) (924121)

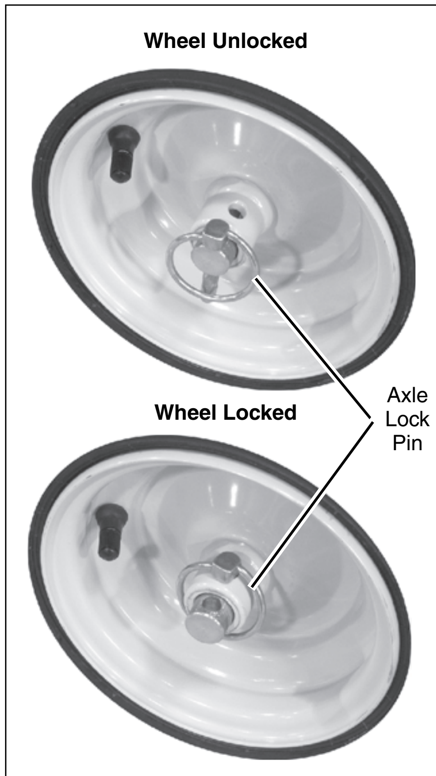



Figure 9

Use the axle lock pin to lock or unlock the right wheel. Lock the right wheel to increase traction; unlock the right wheel to allow for easier turning of the unit.

### Scraper Blade

The scraper blade allows the back of the housing to keep better contact with the surface being cleared. It also prevents damage to the housing from normal wear.

**IMPORTANT:** DO NOT allow Scraper Blade to wear too far or Auger/Impeller housing will become damaged.

### Runners

The runners control the distance between the scraper blade and the ground. Adjust runners equally to keep blade level with the ground. Refer to *Pre-Start* for recommended settings.

## FILLING FUEL TANK

> ⚠ **WARNING:** AVOID INJURY. Read and understand the entire *Safety* section before proceeding.

### Fuel Shut-Off Valve

**IMPORTANT:** The fuel shut-off valve MUST be in the closed position prior to transporting the unit.

The fuel shut-off valve has two positions:

- Closed Position: Use this position to service, transport, or store the unit.
- Open Position: Use this position to run the unit.

### To add fuel to fuel tank:

1. ALWAYS place unit in open or well ventilated area.
2. Stop engine and allow to cool.
3. Clean Fuel Cap and surrounding area to prevent dirt from entering Fuel Tank.
4. Remove Cap.

**IMPORTANT:** DO NOT use gasohol or gasoline containing alcohol. See Engine Manual for correct type and grade of fuel.

5. Fill fuel tank to within 1/2 in. (1.2 cm) below bottom of filler neck with unleaded gasoline.

**NOTE:** Tank capacity is 1 gallon (3.8 liters).

6. Replace Fuel Cap and tighten.
7. ALWAYS clean up any spilled fuel.

## PRE-START

### 1. Frozen Impeller

**IMPORTANT:** Before starting engine, check impeller to be sure it is not frozen.

To check impeller:

1. With key in “Stop” position, squeeze Attachment Clutch Lever to Engaged position.
2. Pull Recoil Starter Handle.
3. If Impeller is frozen, (cannot pull Starter Handle) move unit to a heated area and thaw to prevent possible damage.

### 2. Check Dual Handle Interlock

Without the engine running, press down (engage) both clutch levers. Release attachment clutch lever. Attachment clutch should remain engaged until traction clutch lever is released, then both clutches *must* disengage.

If clutches do not engage or disengage properly, adjust or repair before operation (see *Service and Adjustments*).

### 3. Differential Lock (924118, 122, 332, 505, 506, 508, 551)

ALWAYS engage differential lock (located in left wheel hub) for best traction when throwing snow.

### 4. Adjust Axle Lock (924121)

Use the axle lock pin to lock or unlock the right wheel. Lock the right wheel to increase traction; unlock the right wheel to allow for easier turning of the unit.

### 5. Adjust Runners

Check and adjust Runners (see *Service and Adjustments*). Allow 1/8 in. (3 mm) between scraper blade and hard, smooth surface(s). Allow 1-1/4 in. (30 mm) between scraper blade and uneven or gravel surfaces.

### 6. Check Engine Fuel & Crankcase Oil

> ⚠ **WARNING:** AVOID INJURY. Read and understand the entire *Safety* section before proceeding.

Check and add fuel if required. Check that the engine crankcase oil is full using dipstick. Refer to Engine Manual for detailed instructions.

## TO STOP IN AN EMERGENCY

Immediately release both control levers to stop unit in an emergency. Stop engine, remove key and wait for all rotating parts to stop before leaving operator’s position.

## STARTING AND SHUT OFF

> **WARNING:** FAILURE TO FOLLOW INSTRUCTIONS could result in personal injury and/or damage to unit. DO NOT attempt to start your unit at this time. Read entire Owner/Operator Manual and the Engine Manual first.

**IMPORTANT:** Allow unit and engine to adjust to the outdoor temperatures before clearing snow. Before shut-off, run the attachment a few minutes to prevent freeze-up.

**NOTE:** Try out each control without the engine running to see how it works and what it does.

### Manual Start

1. Turn discharge chute straight ahead.
2. Make sure that the traction clutch and attachment drive clutch levers are fully disengaged.
3. Push Primer Bulb 2 or 3 times for cold engine.

**NOTE:** When temperature is below -15˚ F (-26˚ C) additional priming may be needed.

4. If engine is cold, apply choke. See Engine Manual for detailed instructions.

**NOTE:** A warm engine requires less choking than a cold engine.

5. Set throttle to proper starting position.
6. Insert key into ignition switch.

   12V - Turn key into RUN position.

   120V - Push key into RUN position. DO NOT twist key after it is inserted.
7. Grasp starter handle and pull rope out slowly until it pulls harder. Let rope rewind slowly.
8. Pull rope with a rapid continuous full arm stroke. Let rope rewind slowly.

**IMPORTANT:** DO NOT let Starter Handle snap against Starter.

9. Repeat steps 7 and 8 until engine starts. (If engine does not start, refer to *Troubleshooting*.)
10. Adjust choke as needed.
11. Set throttle to Part Throttle or Slow position for adaptation to outside temperature or travel. Set throttle to Fast position for normal operation.

### Electric Start

1. Connect extension cord to prongs on starter.

**IMPORTANT:** Prevent damage to unit. Know voltage of your starter and only use matching outlets.

2. Plug extension into 120V 3-wire, grounded outlet.
3. Turn discharge chute straight ahead.
4. Make sure that the traction clutch and attachment drive clutch levers are fully disengaged.
5. Push Primer Bulb 2 or 3 times for cold engine.

**NOTE:** When temperature is below -15˚ F (-26˚ C) additional priming may be needed.

6. Insert key into ignition switch on engine and push into "Run" position. DO NOT twist key after it is inserted.
7. If engine is cold, apply choke. A warm engine requires less choking than a cold engine. See Engine Manual for detailed instructions.
8. Set throttle to proper starting position.
9. Press starter button on engine until engine starts.

**IMPORTANT:** DO NOT operate starter more than 15 seconds per minute, as overheating and damage can occur. (If engine does not start, refer to *Troubleshooting*.)

10. Adjust choke as needed.
11. Disconnect power cord from outlet, then starter.
12. Set throttle to Part Throttle or Slow position for travel or adaptation to outside temperature. Once achieved, set throttle to Fast position for normal operation.

### Electric Start (12V)

1. Turn discharge chute straight ahead.
2. Make sure that the traction clutch and attachment drive clutch levers are fully disengaged.
3. Push Primer Bulb 2 or 3 times for cold engine.

**NOTE:** When temperature is below -15˚ F (-26˚ C) additional priming may be needed.

4. If engine is cold, apply choke. See Engine Manual for detailed instructions.

**NOTE:** A warm engine requires less choking than a cold engine.

5. Set throttle to proper starting position.
6. Put ignition key into START position until engine starts and release into the RUN position.

**IMPORTANT:** DO NOT operate starter more than 15 seconds per minute, as overheating and damage can occur. (If engine does not start, refer to *Troubleshooting*.)

7. Adjust choke as needed.
8. Set throttle to Part Throttle or Slow position for travel or adaptation to outside temperature. Once achieved, set throttle to Fast position for normal operation.

### Shut Off

1. Release Traction Drive Clutch Lever and allow unit to come to a complete stop.
2. Run Impeller a few minutes after use to prevent freeze-up of Impeller.
3. Release Attachment Clutch Lever and wait for all moving parts to come to a complete stop.
4. Move Throttle to the “Stop” position.
5. Remove key.

## SNOW REMOVAL

**IMPORTANT:** Allow unit and engine to adjust to the outdoor temperatures before clearing snow.

**NOTE:** Attachment clutch should be engaged before wheel drive clutch when throwing snow.

1. Select Speed Control position and direction.
2. Engage Attachment Clutch - Right Hand Lever.
3. Engage Traction Drive Clutch - Left Hand Lever.

**IMPORTANT:** DO NOT overload unit capacity by attempting to clear snow at too fast a rate. Use slow speed to clear deep or hard packed snow.

### Tips for Operation

Snow is best removed as soon as possible after snow fall.

To clear an area, run unit in an overlapping series of paths. For large areas; start in the middle and throw snow to each side, so snow is not cleared more than once.

ALWAYS direct snow away from area to be cleared and with direction of the wind.

## TRAVELING

To travel from one work area to another:

1. Set Throttle to Slow or Part-Throttle position.
2. Press down on handlebars enough to raise front of unit slightly off surface.
3. Engage wheel drive clutch without engaging attachment drive clutch.

## TRANSPORT

ALWAYS shut off engine, remove key, and close fuel shut-off valve when transporting unit on a truck or trailer.

Use extra care when loading or unloading unit onto trailer or truck.

Secure unit chassis to transport vehicle. NEVER secure from rods or linkages that could be damaged.

DO NOT transport machine while engine is running.

# MAINTENANCE

Ariens Dealers will provide any service or adjustments which may be required to keep your unit operating at peak efficiency. Should engine service be required, contact an Ariens dealer or an authorized engine manufacturer's service center.

> ⚠ **WARNING:** AVOID INJURY. Read and understand the entire *Safety* section before proceeding.

## SERVICE POSITION

> ⚠ **WARNING:** Before tipping unit up onto housing, remove fuel so no spills will occur and remove battery (if equipped). Ensure unit is secure and will not tip over during maintenance.

Place unit on a flat level surface. Tip unit forward onto front of impeller housing for service. Assure unit is secure and will not tip over. Strap and clamp onto bench if needed.

## MAINTENANCE SCHEDULE

The chart below shows the recommended maintenance schedule that should be performed on a regular basis. More frequent service may be required.

| MAINTENANCE SCHEDULE | | | | |
|---|---|---|---|---|
| Service Performed | Each Use | Every 5 hrs. | Every 25 hrs. | Yearly |
| Check Dual Handle Interlock | • | | | |
| Check Fasteners | • | | | |
| Check Clutches | • | | | |
| Clean Engine | • | | | |
| Check Engine Oil | | • | | |
| Change Engine Oil | | * | • | |
| Check Tire Pressure | | | • | |
| Check Auger Gearcase | | | • | • |
| General Lubrication | | | • | • |
| Battery Maintenance | | | • | • |

* After first two hours of operation.

## CHECK DUAL HANDLE INTERLOCK

Without the engine running, press down (engage) both clutch levers. Release attachment clutch lever. Attachment clutch should remain engaged until traction clutch lever is released, then both clutches *must* disengage.

## CHECK FASTENERS

Make sure all hardware is tightened properly.

## CHECK CLUTCHES

Auger / impeller must stop within 5 seconds when attachment clutch/impeller brake lever is released.

Wheels must stop quickly when traction drive clutch lever is released.

If clutches do not engage or disengage properly, adjust or repair before operation (see *Service and Adjustments*).

## CLEAN ENGINE

Refer to Engine Manual for detailed instructions.

## CHECK ENGINE OIL

The engine crankcase oil should be checked every 5 hours of operation. Oil level MUST be maintained in safe operating range on dipstick at all times or engine damage will result (See Engine Manual).

Park unit on a level surface. Refer to Engine Manual for detailed instructions.

## CHANGE ENGINE OIL

Change oil after first 2 hours of operation, thereafter change oil every 25 hours (more often if required). Refer to Engine Manual for detailed instructions.

Run engine just prior to changing oil. Warm oil will flow more freely and carry away more contamination.

## CHECK TIRE PRESSURE

Keep tires at pressure listed on the tire sidewall.

## CHECK AUGER GEARCASE

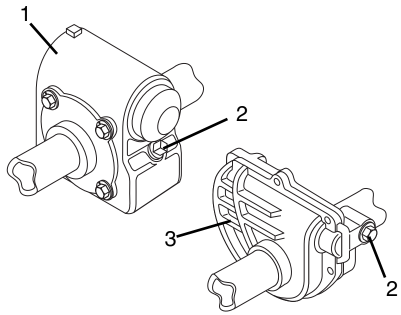
**IMPORTANT:** Proper oil level must be maintained.

Gear cases are filled to the correct level at the factory. Unless there is evidence of leakage, no additional lubricant should be required. Check oil level each season or every 25 hours of operation.

To ensure adequate lubricant level:

1. Remove filler plug (Figure 10). Lubricant must be at least up to bottom of lubricant filler hole with unit resting on a level-surface.
2. Add lubricant if required. Allow oil to drain to level of plug and replace plug.

**IMPORTANT:** Use only Ariens special gear lubricant L-2 (Part Number 00008000).




1. Auger Gearcase - Cast Iron
2. Oil Fill and Drain Plug
3. Auger Gearcase - Aluminum

Figure 10

# GENERAL LUBRICATION

**IMPORTANT:** Wipe each fitting clean before and after lubrication.

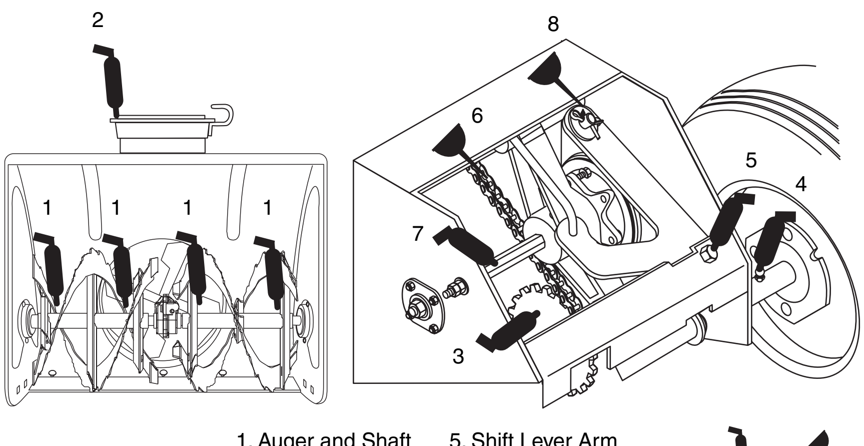
**IMPORTANT:** DO NOT allow grease or oil to get on friction disc, friction plate or belts.

**NOTE:** Apply Stens Mix Hi-Temp Grease or equivalent to the lubrication fittings. See *Service Parts.*

Sno-Thro should be lubricated (Figure 11) at beginning of season or every 25 operating hours.

## Auger Shaft

**NOTE:** To grease auger shaft, remove shear bolt nuts, and shear bolts. Turn auger on shaft while applying grease at zerk fittings. Replace shear bolt per instructions in *Service and Adjustments*.




1. Auger and Shaft
2. Discharge Chute
3. Sprocket/Pinion Assembly
4. Axle Shaft
5. Shift Lever Arm
6. Pinion Chain
7. Hex Shaft
8. Shift Link

OS0641
OS0741

Figure 11

## CLEAN BATTERY (924332, 505, 506, 508)

> **WARNING:** AVOID INJURY. Read and understand the entire *Safety* section before proceeding.

**IMPORTANT:** Battery is maintenance free. Do not tamper with or attempt to open battery. See *Service and Adjustments* for charging procedures.

### Terminals

Keep battery and its terminals clean.

**IMPORTANT:** Remove battery from unit before cleaning.

Remove corrosion from battery terminals and cable connections with a wire brush, then wash with a weak baking soda solution.

After cleaning, apply a thin coat of grease or petroleum jelly to terminals and cable ends to retard corrosion.

# SERVICE AND ADJUSTMENTS

> **WARNING:** AVOID INJURY. Read and understand the entire *Safety* section before proceeding.

## DISCHARGE CHUTE DEFLECTOR (924118, 551)

Deflector must stay in selected position while throwing snow.

To adjust, loosen then retighten hardware to desired deflector drag force (Figure 12).

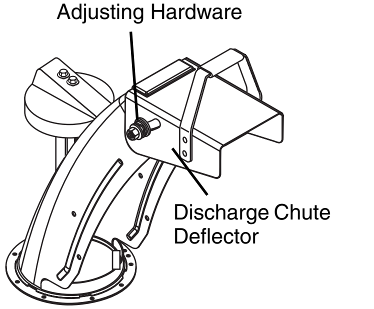


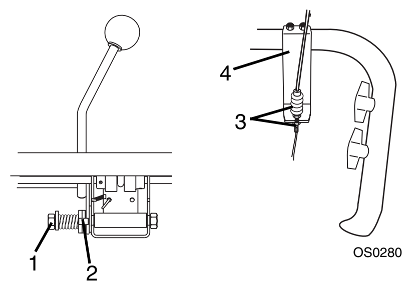

Figure 12

## DEFLECTOR REMOTE (924121, 122, 332, 505, 506, 508)

Deflector must stay in selected position while throwing snow.

If deflector does not stay in set position:

1. Tighten nut beneath the control panel to increase friction on pressure flange (Figure 13).




1. Nut
2. Pressure Flange
3. Adjusting Nuts
4. Cable Support Bracket

Figure 13

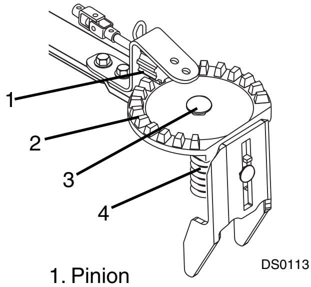
If deflector does not follow full range of travel:

1. Push deflector remote all the way forward.
2. Loosen adjusting nuts on cable support bracket.
3. To adjust the deflector lower:
   Slide cable down. Tighten bottom nut.
4. To adjust deflector higher:
   Slide cable up. Tighten top nut.
5. Check travel and repeat adjustment as necessary.

## DISCHARGE CHUTE

If chute does not stay in position while operating, tighten nut on carriage bolt at pivot point to increase tension on spring (Figure 14).

Smooth and easy rotation of properly lubricated chute with crank is obtained by adjusting pinion and chute gear teeth so they mesh together.




1. Pinion
2. Chute Gear
3. Carriage Bolt
4. Spring

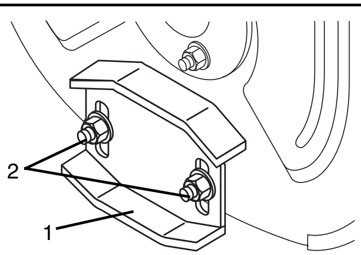
Figure 14

## RUNNERS

Runners should be adjusted (Figure 15) as conditions require.

1. Position unit on a hard, flat, smooth level surface.
2. Adjust runners by inserting a spacer of desired thickness under center of scraper blade, loosen runner hardware, slide runners to flat surface. Allow 1/8 in. (3 mm) between scraper blade and hard smooth surfaces. Allow 1-1/4 in. (30 mm) between scraper blade and uneven or gravel surfaces. Retighten hardware.

**NOTE:** Keep housing level by adjusting runners equally.




1. Runner
2. Runner Hardware

Figure 15

## SCRAPER BLADE

**IMPORTANT:** Damage to auger/impeller housing will result if blade wears down too far.

Scraper blade is adjustable to compensate for wear.

To adjust scraper blade:

1. Tip unit back onto handlebar, support housing and loosen nuts retaining blade.
2. Adjust runners to fully raised position (housing closest to ground).
3. Reposition scraper blade flush with runners and tighten lock nuts.

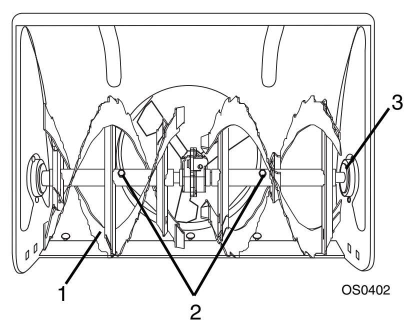
## SHEAR BOLTS

**IMPORTANT:** Use only Ariens shear bolts for replacement. Use of any other type of shear bolt may result in severe damage to unit.

Occasionally a foreign object may enter the auger/impeller housing and jam the auger, breaking shear bolts (Figure 16) which secure the auger to the shaft. This allows auger to turn freely on the shaft preventing damage to gear drive.

### For Replacement:

1. Slide auger outward against roll pin and align hole in shaft with hole in auger (holes in shaft for roll pins and shear bolts line up).
2. Drive shear bolt through hole (if shear bolt was broken this will drive remaining part from shaft).
3. Secure shear bolt with nut.



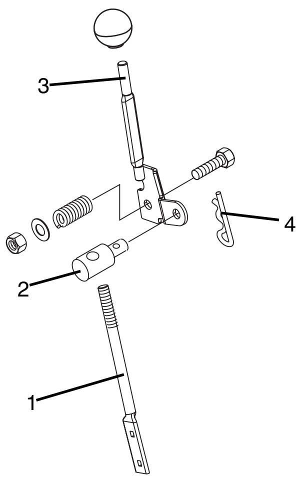

1. Auger
2. Shear Bolts
3. Roll Pin

Figure 16

## SPEED SELECTOR ADJUSTMENT

To adjust (Figure 17):

1. Place unit into service position.
2. Remove hair pin from adjustment pivot pin.
3. Pull shift rod and pin out of speed selector lever.
4. Place the speed selector in the fastest reverse speed position.
5. Pull the shift rod straight up towards the control panel as far as it will go.
6. Thread the adjustment pivot pin along the shift rod until it aligns with the mating hole on the speed selector lever. Insert the pivot pin into hole.
7. Make sure the speed selector shifts into each speed position.
8. Secure adjustment pivot pin with hairpin.




1. Shift Rod
2. Adjustment Pivot Pin
3. Speed Selector Lever
4. Hairpin

Figure 17

## ATTACHMENT CLUTCH/BRAKE ADJUSTMENT

(Figures 18 and 19)

**IMPORTANT:** IMPROPER ADJUSTMENT could result in unexpected movement of auger and impeller causing death or serious injury. Auger / impeller must stop within 5 seconds when Attachment Clutch/Impeller Brake lever is released.

1. Remove belt cover.
2. Check belt alignment (Figure 21).

   Engine sheave and attachment pulley must align vertically. Also, belt must be centered in the idler pulley.

   To align, move attachment pulley:

   a. Loosen set screws.
   b. Slide pulley and key to desired position.
   c. Tighten set screws.
3. Install belt cover.
4. Adjust cable slack.

**IMPORTANT:** The belt cover must be installed and the clutch cable must be slack when the lever is disengaged.

   a. With clutch lever disengaged, loosen jam nut on cable adjuster.
   b. Turn adjuster body to remove all slack from the cable. Do not stretch spring or move lower clutch arm.
   c. Turn back the adjuster body 5 turns (approximately 1/4 in. or 6 mm). Finger tighten jam nut.
   d. Hold adjuster body with pliers and tighten jam nut with wrench.
5. Check spring length.
   a. Measure the length of the clutch cable spring.
   b. Engage and hold the attachment clutch lever.
   c. Measure the length of the spring again. The spring should be 7/16 –11/16 in. (11.1–17.5 mm) longer when the lever is engaged.

6. Adjust spring length.

**NOTE:** Approximately 1/8 in. (3 mm) movement of the idler will change spring extension by 1/8 in. (3 mm).

a. Loosen the idler adjustment nut.

b. To increase spring extension, move idler towards belt (Figure 21).

c. To decrease spring extension, move idler away from belt.

d. Tighten idler adjustment nut.

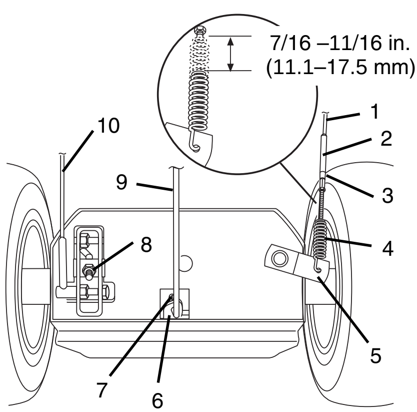
7. Place unit in service position. Remove bottom cover by removing four cap screws.
8. Check brake.

   When the clutch lever is disengaged, the brake must contact attachment belt.

   When the clutch lever is engaged, the brake must be more than 1/16 in. (1.6 mm) away from the belt (Figure 19).
9. Repeat steps 4 – 7 until:

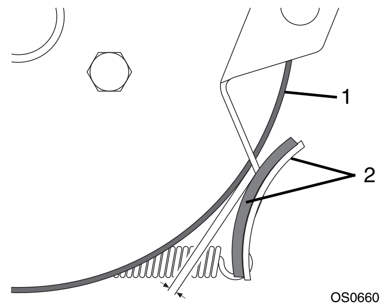
   Spring stretch and brake contact are correct.
10. Check belt finger clearance (Figure 21).

    With clutch lever engaged, belt fingers should be 1/16 – 1/8 in. (1.6 –3 mm) from belt. Adjust belt fingers as necessary.
11. Replace bottom cover.




1. Attachment Clutch Cable
2. Cable Adjuster
3. Jam Nut
4. Clutch Cable Spring
5. Lower Clutch Arm
6. Lever Arm
7. Cotter Pin and Washer
8. Adjustment Nut
9. Shift Rod
10. Traction Drive Clutch Cable

Figure 18




Minimum of 1/16 in. (1.6 mm)

1. Drive Belt
2. Brake Shoe and Pad

Figure 19

## TRACTION DRIVE CLUTCH ADJUSTMENT

If drive slips, adjust traction clutch to compensate for friction disc wear.

To adjust traction clutch:

1. Place speed selector in First (1) Forward.
2. Place unit in service position.
3. With traction clutch disengaged turn wheels while tightening adjustment nut (Figure 18), at clutch yoke.
4. Engage and release traction clutch.
5. Turn wheels to check for slight drag.
6. Repeat steps 3 - 5 until wheels begin to drag.
7. Turn adjustment nut back three turns. Wheels will then turn freely.

## DRIVE CHAIN

Chain should be taut with little or no play in it. To compensate for looseness or excessive tightness in drive chain:

1. Put unit into service position.
2. Remove bottom cover by removing four cap screws.
3. Loosen nuts on idler hex shaft (Figure 22). Adjust the idler hex shaft in slot as necessary. Torque the nut to 70-146 lbf-in. (7.9 - 16.5 N•m).

## ATTACHMENT DRIVE BELT REPLACEMENT

### Remove old attachment drive belt:

1. Shut off engine and allow to cool completely.
2. Remove belt cover (Figure 20).
3. Remove spring clip from chute crank to remove chute crank.
4. Remove hardware holding chute strap to engine bracket and lift discharge chute off housing.

**IMPORTANT:** Disconnect remote cap deflector and/or electric chute wire harness (if equipped) before proceeding.

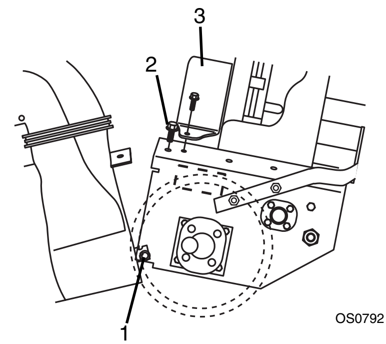
5. Loosen cap screws and carefully rotate belt fingers away from belt and sheave (Figure 21).

**IMPORTANT:** Use care when rotating the belt fingers. DO NOT bend belt fingers out of shape.

6. Remove attachment drive belt from engine sheave (it may be necessary to turn engine sheave using recoil starter handle).

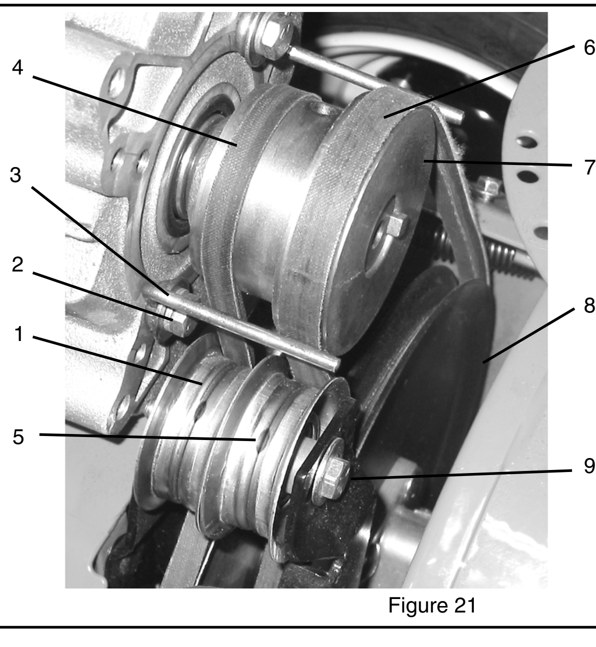
**IMPORTANT:** To avoid bending bottom cover when tipping unit apart, support handlebars firmly or tip unit up on housing and remove bottom cover by removing four cap screws before separating unit.

7. Support Sno-Thro frame and housing.




1. Pivot Pin
2. Housing Cap Screws
3. Belt Cover

Figure 20




1. Traction Belt Idler
2. Cap Screw
3. Belt Finger
4. Traction Drive Belt
5. Attachment Belt Idler
6. Attachment Drive Belt
7. Engine Sheave
8. Attachment Pulley
9. Attachment Idler Adjustment Nut

Figure 21

OS3320

8. Remove cap screws securing housing to

> **CAUTION:** Always support Sno-Thro frame and blower housing when loosening the cap screws holding them together. Never loosen cap screws while unit is in service position.

frame (one on each side). Tip housing and frame apart on pivot pins (Figure 20).

9. Remove attachment drive belt from attachment pulley (hold brake away from belt).

### Install new attachment drive belt:

1. Place new attachment belt onto attachment pulley.
2. Tip housing and frame back together and secure with cap screws.
3. Place belt onto engine sheave.
4. Make sure engine sheave and attachment pulley align. If alignment is necessary, loosen attachment pulley set screws, reposition pulley and retighten set screws.
5. Reposition and secure belt fingers.

**IMPORTANT:** Make sure belt fingers are 1/16 in. to 1/8 in. (1.6-3mm) from belt when attachment clutch is engaged.

6. Check adjustment. See *Attachment Clutch/Brake.*

> **WARNING:** AUGER / IMPELLER MUST STOP within 5 seconds when attachment clutch lever is released or unit damage or serious injury may result.

7. Reconnect chute crank and secure with spring clip. If equipped, reconnect remote cap deflector cable and/or electric chute wire harness.
8. Replace belt cover.

## TRACTION DRIVE BELT REPLACEMENT

**NOTE:** Housing and frame must be tipped apart and attachment drive belt removed from engine sheave in order to change traction drive belt.

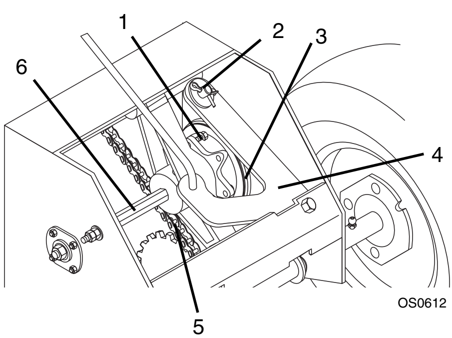
1. Remove attachment drive belt (see *Attachment Drive Belt Replacement*).
2. Pull idler away from traction drive belt and remove belt from idler pulley, engine sheave and driven pulley (it may be necessary to turn engine pulley using recoil handle).

**NOTE:** To gain clearance, engage traction clutch and if necessary pull back attachment idler arm clevis pin.

3. Install new traction drive belt onto attachment pulley and engine sheaves.
4. Replace attachment drive belt (See *Replace Attachment Drive Belt*).

## FRICTION DISC REPLACEMENT

1. Place unit into service position.
2. Remove bottom cover by removing four cap screws.
3. Place speed selector in first (1) position and depress traction clutch lever to hold friction disc and hub in position.
4. Remove cap screws from hub (Figure 22).
5. Release traction clutch lever, shift to third (3) position, and remove friction disc.
6. Secure new friction disc on hub with five cap screws and torque cap screws to 8-10 lbf-ft (10,6-13,3 N•m).
7. Replace bottom cover.
8. Adjust traction drive clutch (see *Traction Drive Clutch Adjustment*).




1. Cap Screw
2. Cotter Pin
3. Friction Disc
4. Shift Arm
5. Chain
6. Idler Hex Shaft

Figure 22

## BATTERY (924332, 505, 506, 508)

### Charging

1. Place unit on a level surface and shut off engine.
2. Disconnect negative (-) cable first, then positive (+) cable.
3. Loosen wing nut and remove battery. Place battery on bench or other well ventilated place.
4. Connect positive (+) lead of charger to positive (+) terminal, and negative (-) lead to negative (-) terminal.
5. Charge the battery at two and a half amps for ten hours.
6. Reinstall battery into unit and connect positive (+) cable first, then negative (-) cable.

### Replacing

Use U1R or U1L; 340 to 350 CCA @ 0˚F type batteries.

# STORAGE

⚠ **WARNING:** AVOID INJURY. Read and understand the entire *Safety* section before proceeding.

## SHORT TERM

**IMPORTANT:** NEVER spray unit with high pressure water or store unit outdoors.

Run with attachment clutch engaged a few minutes after each use to free unit of any loose or melting snow.

Close fuel shut-off valve.

Inspect unit for visible signs of wear, breakage or damage.

Keep all nuts, bolts and screws properly tightened and know unit is in safe working condition.

Store unit in a cool, dry protected area.

## LONG TERM

Clean unit thoroughly with mild soap and low pressure water and lubricate (see Maintenance). Touch up all scratched painted surfaces.

Remove weight from wheels by putting blocks under frame or axle.

When storing unit for extended periods of time, remove all fuel from tank and carburetor (run dry). Refer to Engine Manual.

# SERVICE PARTS

Order the following parts through your Dealer:

| Part No. | Description |
|---|---|
| 00036800 | Stens Mix Hi-Temp Grease (3, 3 oz. cartridges) |
| 21533500 | Spark Plug (924122, 332, 505, 506, 508) |
| 21533400 | Spark Plug (924118, 121, 551) |
| 07236200 | Impeller Belt (924506) |
| 07238332 | Impeller Belt (924505) |
| 07238400 | Impeller Belt (924122, 332, 508) |
| 07238500 | Impeller Belt (924118, 121, 551) |
| 07211200 | Traction Belt (924118, 121, 122, 332, 508, 551) |
| 07236100 | Traction Belt (924505, 506) |
| 00300300 | Friction Disc |
| 51001500 | Shear Bolt Kit |

To obtain a complete parts manual, find your model and serial number. Then go to www.ariens.com or call 1-800-678-5443.

# ACCESSORIES

See your authorized Ariens dealer to add the additional accessories available to your Sno-Thro.

| Part No. | Description |
|---|---|
| 73203100 | Slicer Bar |
| 72406500 | Front Weight Kit |
| 72406600 | Deflector Remote Control Kit (924118, 551) |

* Available in CE countries.

## TROUBLESHOOTING

| PROBLEM | PROBABLE CAUSE | CORRECTION |
|---|---|---|
| **Engine will not crank/start.** | 1. Fuel tank is empty.<br>2. Fuel shut-off valve closed.<br>3. Build up of dirt and residue around governor/carburetor.<br>4. Key Switch not in run position.<br>5. Ignition switch starter circuit not functioning.<br>6. Battery discharged, wires loose. | 1. Fill fuel tank.<br>2. Open fuel shut-off valve.<br>3. Clean area around governor/carburetor.<br>4. Put Key Switch into run position.<br>5. Check for a bad starter or connections.<br>6. Check battery and connections. |
| **Engine stops.** | 1. Out of fuel.<br>2. Fuel shut-off valve closed.<br>3. Mechanical jam in blower rake or impeller.<br>4. Polluted fuel supply.<br>5. Faulty spark plug. | 1. Fill fuel tank.<br>2. Open fuel shut-off valve.<br>3. Turn off engine, remove key, and wait for all moving parts to stop. Check for and remove obstruction and repair before restart.<br>4. Replace with clean fuel.<br>5. Replace or clean spark plug. |
| **Engine problems.** | 1. See Engine Manual. | |
| **Does not operate in Forward / Reverse.** | 1. Friction disc not adjusted properly.<br>2. Traction belt not functioning.<br>3. Speed selector not adjusted properly. | 1. Repair or replace friction disc. See *Service and Adjustments.*<br>2. Repair or replace traction drive belt. See *Service and Adjustments.*<br>3. Adjust speed selector. See *Service and Adjustments*. |
| **Small rubber beads collect in frame** | 1. Friction disc wear. | 1. Normal friction disc wear. Chunks or large pieces of rubber mean friction disc should be checked and replaced as necessary. |
| **Unit throws snow poorly or does not throw snow.** | 1. Shear bolts broken.<br>2. Attachment clutch/brake not adjusted properly.<br>3. Attachment drive belt worn or damaged. | 1. Replace shear bolts *(see Shear Bolts* on page 23).<br>2. Adjust attachment clutch/brake *(see Attachment Clutch/Brake Adjustment* on page 24).<br>3. Replace attachment drive belt *(see Attachment Clutch/Brake Adjustment* on page 24). |

<table>
<tr><th colspan="9">SPECIFICATIONS</th></tr>
<tr><td>Model Number</td><td>924121</td><td>924122</td><td>924332</td><td>924508</td><td>924505</td><td>924506</td><td>924118</td><td>924551</td></tr>
<tr><td>Description</td><td>1128</td><td>1124</td><td>1124</td><td>1128</td><td>1332</td><td>1336</td><td>8524</td><td>8524</td></tr>
<tr><td>Engine - Tecumseh</td><td colspan="2">OHSK110-22173 5D</td><td colspan="2">OHSK110-22171 6D</td><td colspan="2">OHSK130-22381 5E</td><td>HMSK8 5-15591 1C</td><td>HMSK8 5-15591 0C</td></tr>
<tr><td>Power Max - HP (kW)</td><td colspan="4">11.5 (8.6)</td><td colspan="2">13 (9.7)</td><td colspan="2">8.5 (6.3)</td></tr>
<tr><td>Fast Idle Speed - RPM (min$^{-1}$)</td><td colspan="8">3600 ± 150</td></tr>
<tr><td>Displacement - in. (cc)</td><td colspan="4">19.43 (318.3)</td><td colspan="2">21.82 (357.6)</td><td colspan="2">19.43 (318.3)</td></tr>
<tr><td>Electric Start</td><td colspan="2">120V</td><td colspan="4">12V</td><td>120V</td><td>NA</td></tr>
<tr><td>Fuel</td><td colspan="8">See Engine Manual</td></tr>
<tr><td>Tank Capacity - qt (Liters)</td><td colspan="8">4 (3.8)</td></tr>
<tr><td>Snow Clearing Width - in. (cm)</td><td>28 (71.2)</td><td colspan="2">24 (61.0)</td><td>28 (71.2)</td><td>32 (81.3)</td><td>36 (91.4)</td><td colspan="2">24 (61)</td></tr>
<tr><td>Chute</td><td colspan="8"></td></tr>
<tr><td>Rotation Angle</td><td colspan="8">220˚</td></tr>
<tr><td>Rotation Control at Handlebar</td><td colspan="4">Yes</td><td colspan="2">No</td><td colspan="2">Yes</td></tr>
<tr><td>Remote Deflector Control</td><td colspan="6">Yes</td><td colspan="2">No</td></tr>
<tr><td>Impeller</td><td colspan="8"></td></tr>
<tr><td>Diameter - in. (cm)</td><td colspan="5">12 (30.5)</td><td>14 (35.6)</td><td colspan="2">12 (30.5)</td></tr>
<tr><td>Speed - RPM-Max (min$^{-1}$)</td><td colspan="5">1310</td><td>1140</td><td colspan="2">1310</td></tr>
<tr><td>Auger</td><td colspan="8"></td></tr>
<tr><td>Diameter - in. (cm)</td><td>15 (38.1)</td><td colspan="5">16 (40.6)</td><td colspan="2">15 (38.1)</td></tr>
<tr><td>Speed - RPM-Max (min$^{-1}$)</td><td colspan="8">131</td></tr>
<tr><td>Auger Brake</td><td colspan="8">Yes</td></tr>
<tr><td>Attachment Clutch</td><td colspan="8">Yes</td></tr>
<tr><td>Drive</td><td colspan="8">Disc-O-Matic</td></tr>
<tr><td>Speeds</td><td colspan="8">6 Forward and 2 Reverse</td></tr>
<tr><td>Lock Out Differential</td><td>No</td><td colspan="7">Yes</td></tr>
<tr><td>Pneumatic Tires - in. (cm)</td><td>16/6.50 x8 (40.6/16 .5x20.3)</td><td colspan="2">16/4.80 x 8 (40.6/12.2x20.3)</td><td colspan="3">16/6.50 x 8 (40.6/16.5x20.3)</td><td colspan="2">16/4.80 x 8 (40.6/12.2x20.3)</td></tr>
<tr><td>Size and Weight</td><td colspan="8"></td></tr>
<tr><td>Length - in. (cm)</td><td colspan="8">60 (152)</td></tr>
<tr><td>Height - in. (cm)</td><td colspan="8">43 (109.2)</td></tr>
<tr><td>Width - in. (cm)</td><td>30.5 (77.5)</td><td colspan="2">26.3 (66.8)</td><td>30.5 (77.5)</td><td>34.5 (87.6)</td><td>38.5 (97.8)</td><td colspan="2">26.6 (67.6)</td></tr>
<tr><td>Weight - lbs (Kg)</td><td>269 (122)</td><td>274 (124.3)</td><td>298 (135.2)</td><td>312 (141.5)</td><td>326 (147.9)</td><td>328 (148.8)</td><td>255 (115.6)</td><td>250 (113.4)</td></tr>
</table>

# 3-Year Limited Sno-Thro Warranty

**Ariens Company**
655 West Ryan Street
P.O. Box 157
Brillion, WI 54110-0157
920-756-2141
Fax 920-756-2407
www.ariens.com

Ariens Company warrants to the original purchaser that consumer products manufactured by Ariens Company will be free from defects in material and workmanship for a period of three (3) years after the date of purchase, and will repair any defect in material or workmanship, and repair or replace any defective part, subject to the conditions, limitations and exclusions set forth herein.

The three-year duration of this warranty applies only if the product is put to ordinary, reasonable, and usual personal, family, or household uses. If the product is put to any business, commercial, or industrial use, then the duration of this warranty is ninety (90) days after the date of purchase, or one (1) year after the date of purchase if the product is labeled as a Professional/Commercial Product. If any product is rented or leased, then the duration of this warranty is ninety (90) days after the date of purchase.

Genuine Ariens service parts and accessories not purchased with the product covered by this warranty, but which are later purchased and used with that product, are warranted to be free from defects in material and workmanship for a period of ninety (90) days after date of purchase, and Ariens Company will repair or replace any such part or accessory free of charge, except for labor, during that period.

**This warranty is subject to the following conditions, limitations, and exclusions:**

**This warranty is valid only if the following conditions are met:**

- The purchaser must perform maintenance and minor adjustments explained in the owner's manual.
- The purchaser must promptly notify Ariens Company or an authorized Ariens service representative of the need for warranty service.
- Returning the product registration card to Ariens Company will enable the company to contact the registrant with repair or replacement part information.

**The following items are not covered by this warranty:**

- Engines and engine accessories are covered only by the warranty made by the engine manufacturer, and are not covered by this warranty.
- Parts that are not genuine Ariens service parts are not covered by this warranty.
- Shoes, runners, scraper blades, shear bolts, headlights, light bulbs are not covered by this warranty.
- Any defect which is the result of misuse, alteration, improper assembly, improper adjustment, neglect, or accident is not covered by this warranty.
- Products which were not purchased in the United States, Puerto Rico, or Canada are not covered by this warranty. In all other countries, contact place of purchase.

**This warranty is subject to the following limitations:**

- The purchaser must transport the product to and from the place of warranty service.
- Warranty service must be performed by an authorized Ariens service representative. (To find an authorized Ariens service representative, contact Ariens Company at the website, number or address above.)
- Batteries are warranted only for a period of twelve (12) months after date of purchase, on a prorated basis. For the first ninety (90) days of the warranty period, a defective battery will be replaced free of charge. If the applicable warranty period is more than 90 days, Ariens Company will cover the prorated cost of any defective battery, for up to twelve (12) months after the date of purchase.
- Normal maintenance items including, but not limited to, belts, idlers, cables, friction wheels, tires, wheels, electrical components are warranted for a two-year period from the date of purchase unless a shorter period would apply based on how the product is used, then the shorter period will apply.

## DISCLAIMER OF FURTHER WARRANTY

**Ariens Company makes no warranty, express or implied, other than what is expressly made in this warranty. If the law of your state provides that an implied warranty of merchantability, or an implied warranty of fitness for particular purpose, or any other implied warranty, applies to Ariens Company, then any such implied warranty is limited to the duration of this warranty. Some states do not allow limitations on how long an implied warranty lasts, so the above limitation may not apply to you.**

## LIMITATION OF REMEDY AND DAMAGES

Ariens Company's liability under this warranty, and under any implied warranty that may exist, is limited to repair of any defect in workmanship, and repair or replacement of any defective part. Ariens Company shall not be liable for incidental, special, or consequential damages (including lost profits). Some states do not allow the exclusion of incidental or consequential damages, so the above limitation or exclusion may not apply to you.

**This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.**

Form: ALW3-122002

Ariens Company
655 West Ryan Street
P.O. Box 157
Brillion, WI  54110-0157
920-756-2141
Fax 920-756-2407
www.ariens.com

## ⚠ WARNING ⚠

The engine exhaust from this product contains chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.